

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (previously canceled).

13 (currently amended). Method of detecting a welding process voltage detected between a welding torch and a workpiece, comprising the step of performing a calculation of the welding process voltage in real time, taking account of the interference variables, ~~in particular an~~ including a calculated inductance and a resistance of a welding system, the calculation for determining inductance being performed at specific time intervals during a welding process without the welding process being affected.

14 (previously amended). Method as claimed in claim 13, wherein the calculated welding process voltage is applied by a control unit to the welding process.

Claim 15 (previously canceled).

16 (previously amended). Method as claimed in claim 14, wherein the interference variables are detected and/or

calculated by the control unit before the start of the actual welding process.

17 (previously amended). Method as claimed in claim 13, wherein a voltage and a current at the outputs of the current source are measured by a measuring device.

18 (previously amended). Method as claimed in claim 13, wherein, in order to provide a static calculation of the interference variable of the resistance and the inductance of the hose pack and optionally other ohmic interference variables during a secondary short-circuit prior to the start of the welding process, a current change is imposed on a current curve and the measured voltage is evaluated.

19 (previously amended). Method as claimed in claim 14, wherein, at a predetermined point in time of the current curve, a measurement is taken or the values of the voltage and current detected at the output terminals of the current source by the control unit are used to calculate the resistance.

20 (currently amended). Method as claimed in claim 18, wherein the lines of the hose pack ~~(23)~~ are short-circuited or a short-circuit is produced between the electrode of the welding torch and the workpiece with the supply lines of the

hose pack connected thereto, taking account of other interference variables, in particular of the welding torch.

Claim 21 (previously canceled).

Claim 22 (previously canceled).

23 (previously amended). Method as claimed in claim 13, wherein a process control or a welding process control is performed during the entire pulse duration.

24 (previously amended). Method as claimed in claim 14, wherein the interference variables are calculated by the control unit by means of software using the detected values and a predetermined calculation program.